

Application No. 10/602,692

Amendment dated August 24, 2005

Responsive to Office Action dated April 5, 2005

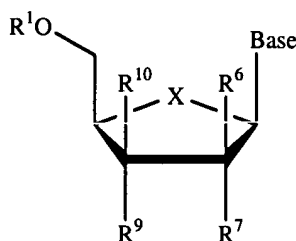
### Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims

Claims 1-88 (canceled)

Claims 89 (Currently Amended): A method for the treatment of a flavivirus or pestivirus infection in a host, comprising administering an anti-virally effective amount of a compound of Formula XVII:



(XVII)

or a pharmaceutically acceptable salt or ester thereof, wherein:

Base is a triazolopyridine, imidazolopyridine, or pyrazolopyrimidine;

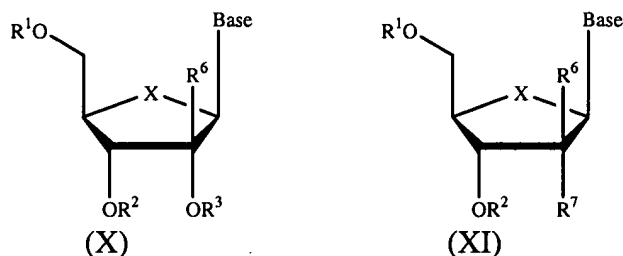
R<sup>1</sup> and R<sup>2</sup> are independently H; phosphate; a stabilized phosphate prodrug; acyl; alkyl; sulfonate ester; benzyl, wherein the phenyl group is optionally substituted with one or more substituents-moieties selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate, either unprotected, or protected as necessary; a lipid; an amino acid; a carbohydrate; a peptide; a cholesterol; or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R<sup>1</sup> and R<sup>2</sup> are independently H or phosphate;

R<sup>6</sup> is hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl, -C(O)O(alkyl), ~~-C(O)O(lower alkyl)~~, -O(acyl), ~~-O(lower acyl)~~, -O(alkyl), ~~-O(lower alkyl)~~, -O(alkenyl), chloro, bromo, fluoro, iodo, NO<sub>2</sub>, NH<sub>2</sub>, -NH(lower alkyl), -NH(acyl), -N(lower alkyl)<sub>2</sub>, or -N(acyl)<sub>2</sub>;

$R^7$  and  $R^9$  are independently hydrogen,  $OR^2$ , hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl,  $-C(O)O(alkyl)$ ,  ~~$-C(O)O(lower\ alkyl)$~~ ,  $-O(acyl)$ ,  ~~$-O(lower\ acyl)$~~ ,  $-O(alkyl)$ ,  ~~$-O(lower\ alkyl)$~~ ,  $-O(alkenyl)$ , chlorine, bromine, iodine,  $NO_2$ ,  $NH_2$ ,  $-NH(lower\ alkyl)$ ,  $-NH(acyl)$ ,  $-N(lower\ alkyl)_2$ , or  $-N(acyl)_2$ ;  
 $R^{10}$  is H, alkyl, chlorine, bromine or iodine;  
 alternatively,  $R^7$  and  $R^9$ , or  $R^7$  and  $R^{10}$  can come together to form a bond; and  
 X is O, S,  $SO_2$  or  $CH_2$ .

Claims 90-129 (canceled)

Claim 130 (Currently Amended): The method of claim 89 for the treatment of a flavivirus or pestivirus infection in a host, comprising administering an anti-virally effective amount of a compound of Formula X or XI:



or a pharmaceutically acceptable salt or ester thereof, wherein:

Base is a triazolopyridine, imidazolopyridine, or pyrazolopyrimidine;

$R^1$ ,  $R^2$  and  $R^3$  are independently H; phosphate or a stabilized phosphate prodrug; acyl; alkyl; sulfonate ester; or benzyl, wherein the phenyl group is optionally substituted; a lipid; an amino acid; a carbohydrate; a peptide; cholesterol; or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein  $R^1$ ,  $R^2$  and  $R^3$  are independently H or phosphate;

$R^6$  is hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl,  $-C(O)O(alkyl)$ ,  ~~$-C(O)O(lower\ alkyl)$~~ ,  $-O(acyl)$ ,  ~~$-O(lower\ acyl)$~~ ,  $-O(alkyl)$ ,  ~~$-O(lower\ alkyl)$~~ ,  $-O(alkenyl)$ , chloro, bromo, fluoro, iodo,  $NO_2$ ,  $NH_2$ ,  $-NH(lower\ alkyl)$ ,  $-NH(acyl)$ ,  $-N(lower\ alkyl)_2$ , or  $-N(acyl)_2$ ;

$R^7$  is hydrogen,  $OR^3$ , hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl,  $-C(O)O(alkyl)$ ,  ~~$-C(O)O(lower\ alkyl)$~~ ,  $-O(acyl)$ ,  ~~$-O(lower\ acyl)$~~ ,  $-O(alkyl)$ ,  ~~$-O(lower\ alkyl)$~~ ,  $-O(alkenyl)$ , chlorine, bromine, iodine,  $NO_2$ ,  $NH_2$ ,  $-NH(lower\ alkyl)$ ,  $-NH(acyl)$ ,  $-N(lower\ alkyl)_2$ , or  $-N(acyl)_2$ ; and  
X is O, S,  $SO_2$  or  $CH_2$ .

Claim 131 (Currently Amended): The method of claim 89 for the treatment of a flavivirus or pestivirus infection in a host, wherein, in the compound of Formula XVII:

$R^{10}$  is H, alkyl, chlorine, bromine or iodine;  
 $R^7$  and  $R^9$  are independently hydrogen,  $OR^2$ , alkyl, alkenyl, alkynyl, Br-vinyl, O-alkenyl, chlorine, bromine, iodine,  $NO_2$ ,  $NH_2$ ,  $-NH(lower\ alkyl)$ ,  $-NH(acyl)$ ,  $-N(lower\ alkyl)_2$ , or  $-N(acyl)_2$ ;  
 $R^6$  is alkyl, chlorine, bromine or iodine;  
~~alternatively,  $R^7$  and  $R^9$ , or  $R^8$  and  $R^9$  can come together to form a bond;~~ and  
X is O, S,  $SO_2$  or  $CH_2$ .

Claim 132 (Previously Presented): The method of claim 89 wherein  $R^1$  is hydrogen or phosphate.

Claim 133 (Previously Presented): The method of claim 89 wherein  $R^2$  is hydrogen, acyl or alkyl.

Claim 134 (Previously Presented): The method of claim 89 wherein  $R^6$  is alkyl.

Claim 135 (Previously Presented): The method of claim 89 wherein  $R^7$  and  $R^9$  are independently hydrogen,  $OR^2$ , or hydroxy.

Claim 136 (Previously Presented): The method of claim 89 wherein  $R^7$  is hydroxy.

Claim 137 (Previously Presented): The method of claim 89 wherein  $R^9$  is hydroxy.

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Claim 138 (Previously Presented): The method of claim 89 wherein  $R^7$  and  $R^9$  are hydroxy.

Claim 139 (Previously Presented): The method of claim 89 wherein  $R^{10}$  is hydrogen.

Claim 140 (Previously Presented): The method of claim 89 wherein X is O.

Claim 141 (Previously Presented): The method of claim 89 wherein

$R^1$  is hydrogen or phosphate;

$R^2$  is hydrogen, acyl or alkyl;

$R^6$  is alkyl;

$R^7$  and  $R^9$  are independently hydrogen,  $OR^2$ , or hydroxy;

$R^{10}$  is hydrogen; and

X is O.

Claim 142 (Previously Presented): The method of claim 89, wherein the method comprises administering the compound or a pharmaceutically acceptable salt or ester thereof in combination or alternation with a second anti-flavivirus or anti-pestivirus agent.

Claim 143 (Previously Presented): The method of claim 142, wherein the second anti-flavivirus or anti-pestivirus agent is selected from the group consisting of consisting of interferon, ribavirin, a protease inhibitor, a thiazolidine derivative, a polymerase inhibitor, and a helicase inhibitor.

Claim 144 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is interferon.

Claim 145 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is a protease inhibitor.

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Claim 146 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is ribavirin.

Claim 147 (Previously Presented): The method of claim 89, wherein the compound is in the form of a dosage unit.

Claim 148 (Previously Presented): The method of claim 147, wherein the dosage unit contains 50 to 1000 mg of said compound.

Claim 149 (Previously Presented): The method of claim 147, wherein said dosage unit is a tablet or capsule.

Claim 150 (Previously Presented): The method of claim 89, wherein the host is a human.

Claim 151 (Previously Presented): The method of claim 89, wherein the compound is in substantially pure form.

Claim 152 (Previously Presented): The method of claim 89, wherein the compound is at least 90% by weight of the  $\beta$ -D-isomer.

Claim 153 (Previously Presented): The method of claim 89, wherein the compound is at least 95% by weight of the  $\beta$ -D-isomer.

Claim 154 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a Dengue virus.

Claim 155 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a West Nile virus.

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Claim 156 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a yellow fever virus.

Claim 157 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a bovine viral diarrhea virus (BVDV).

Claim 158 (Canceled).

Claim 159. (New): The method of claim 89, wherein  $R^6$  is methyl.

Claim 160. (New): The method of claim 89, wherein  $R^6$  is  $CF_3$ .

Claim 161. (New): The method of claim 130, wherein the compound is of formula X.

Claim 162. (New): The method of claim 130, wherein the compound is of formula XI.

Claim 163. (New): The method of claim 130 for the treatment of a flavivirus or pestivirus infection in a host, wherein:

$R^7$  is hydrogen,  $OR^2$ , alkyl, alkenyl, alkynyl, Br-vinyl, O-alkenyl, chlorine, bromine, iodine,  $NO_2$ ,  $NH_2$ ,  $-NH$ (lower alkyl),  $-NH$ (acyl),  $-N$ (lower alkyl) $_2$ , or  $-N$ (acyl) $_2$ ;

$R^6$  is alkyl, chlorine, bromine or iodine; and

X is O, S,  $SO_2$  or  $CH_2$ .

Claim 164. (New): The method of claim 130, wherein  $R^1$  is hydrogen or phosphate.

Claim 165. (New): The method of claim 130, wherein  $R^2$  is hydrogen, acyl or alkyl.

Claim 166. (New): The method of claim 130, wherein  $R^6$  is alkyl.

Claim 167. (New): The method of claim 130, wherein  $R^7$  is hydrogen,  $OR^2$ , or hydroxy.

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Claim 168. (New) The method of claim 130, wherein  $R^7$  is hydroxy.

Claim 169. (New) The method of claim 130, wherein  $R^7$  and  $R^2$  is hydrogen.

Claim 170. (New) The method of claim 130, wherein X is O.

Claim 171. (New) The method of claim 130, wherein

$R^1$  is hydrogen or phosphate;

$R^2$  is hydrogen, acyl or alkyl;

$R^6$  is alkyl;

$R^7$  is hydrogen,  $OR^2$ , or hydroxy;

$R^{10}$  is hydrogen; and

X is O.

Claim 172. (New) The method of claim 130, wherein  $R^6$  is methyl.

Claim 173. (New) The method of claim 130, wherein  $R^6$  is  $CF_3$ .

Claim 174. (New) The method of claim 171, wherein  $R^6$  is methyl.